IN THE CLAIMS:

Please substitute the following claims for the same numbered claims in the application:

1. (Currently Amended) A method of allocating bandwidth of a limited bandwidth link to dataflows ~~containing~~ comprising packets, ~~including the steps of~~ said method comprising:

adaptively adjusting ~~the~~ a number of buckets dependent upon ~~the~~ a number of active dataflows, where each bucket ~~has~~ comprises a number of tokens allocated to said bucket for use by ~~the~~ a corresponding dataflow, said number of tokens dependent upon a weighted value for said corresponding dataflow, wherein queueing of said packets for utilization of said limited bandwidth link is dependent upon said tokens; and

adaptively reallocating said tokens to ~~one or more~~ at least one bucket buckets in accordance with a weighted value for each of said dataflows[[.]],

wherein each bucket is operable for maintaining a record of past usage of an outgoing bandwidth link by each incoming dataflow,

wherein each bucket comprises a height proportional to weights of respective incoming dataflows, wherein said height of each bucket determines a maximum size of bursts of dataflows that can be accommodated by said buckets, and

wherein a rate at which said tokens are allocated to said buckets is proportional to said weights of respective incoming dataflows such that a cumulative rate of all allocation rates equals a fixed transmission capacity of said bandwidth link.

2. (Currently Amended) [[A]] The method ~~according to~~ of claim 1, wherein ~~the adaptive~~ said adaptively adjusting ~~step~~ further ~~includes the step of~~ comprises creating an additional bucket

for each additional dataflow, wherein ~~the~~ a token-carrying capacity of said additional bucket is dependent upon a weighted value for said additional dataflow and said additional bucket is initially filled with tokens.

3. (Currently Amended) [[A]] The method ~~according to~~ of claim 1, wherein the adaptive adjusting step further includes the step of deleting a bucket when the dataflow corresponding to that bucket becomes inactive.

4. (Currently Amended) [[A]] The method ~~according to~~ of claim 3, further ~~including the step of~~ comprising distributing the tokens from the deleted bucket amongst one or more of the other remaining buckets.

5. (Currently Amended) [[A]] The method ~~according to~~ of claim 1, further ~~including the steps of~~ comprising:

queueing one or more packets of a dataflow for utilization of said limited bandwidth link;

removing a number of tokens from the bucket corresponding to said dataflow, wherein said number of tokens is dependent upon the size of said one or more packets; and

making said number of tokens available for reallocation.

6. (Currently Amended) [[A]] The method ~~according to~~ of claim 5, ~~said method~~ further ~~including the step of:~~ comprising dropping one or more received packets of a dataflow when the bucket corresponding to said dataflow has insufficient tokens for queueing of said one or more packets.

7. (Currently Amended) [[A]] The method ~~according to~~ of claim 5, further ~~including the step of~~ comprising of queuing received packets of diverse dataflows in a single queue.

8. (Currently Amended) [[A]] The method ~~according to~~ of claim 1 or claim 2, wherein two or more of said dataflows comprise heterogeneous dataflows.

9. (Currently Amended) [[A]] The method ~~according to~~ of claim 1 or claim 2, further ~~including the steps of~~ comprising aggregating and treating two or more of said dataflows as a single dataflow.

10. (Currently Amended) [[A]] The method ~~according to~~ of claim 1 or claim 2, wherein one or more of said dataflows comprise hierarchical dataflows and each level of an hierarchical dataflow is treated as a single dataflow.

11. (Currently Amended) [[A]] The method ~~according to any one of the preceeding claims~~ of claim 1, wherein ~~the~~ a total number of said tokens is conserved.

12. (Currently Amended) [[A]] The method ~~according to any one of the preceeding claims~~ of claim 1, wherein ~~the~~ a rate of transmission of said packets across said limited bandwidth link is unaffected by ~~the~~ an application of said method.

13. (Currently Amended) A system for allocating bandwidth of a limited bandwidth link to

dataflows ~~containing~~ comprising packets, ~~including~~ said system comprising:

means for adaptively adjusting ~~the~~ a number of buckets dependent upon ~~the~~ a number of active dataflows, where each bucket ~~has~~ comprises a number of tokens allocated to said bucket for use by ~~the~~ a corresponding dataflow, said number of tokens dependent upon a weighted value for said corresponding dataflow, wherein queueing of said packets for utilization of said limited bandwidth link is dependent upon said tokens; and

means for adaptively reallocating said tokens to ~~one or more~~ at least one bucket buckets in accordance with a weighted value for each of said dataflows[[.]],

wherein each bucket is operable for maintaining a record of past usage of an outgoing bandwidth link by each incoming dataflow,

wherein each bucket comprises a height proportional to weights of respective incoming dataflows, wherein said height of each bucket determines a maximum size of bursts of dataflows that can be accommodated by said buckets, and

wherein a rate at which said tokens are allocated to said buckets is proportional to said weights of respective incoming dataflows such that a cumulative rate of all allocation rates equals a fixed transmission capacity of said bandwidth link.

14. (Currently Amended) [[A]] The system ~~according to~~ of claim 13, wherein the means for adaptively adjusting ~~further includes~~ comprises means for creating an additional bucket for each additional dataflow, wherein ~~the~~ a token-carrying capacity of said additional bucket is dependent upon a weighted value for said additional dataflow and said additional bucket is initially filled with tokens.

15. (Currently Amended) [[A]] The system ~~according to~~ of claim 13, wherein the means for adaptively adjusting further includes menus for deleting a bucket when the dataflow corresponding to that bucket becomes inactive.

16. (Currently Amended) [[A]] The system ~~according to~~ of claim 15, further including means for distributing the tokens from the deleted bucket amongst one or more of the other remaining buckets.

17. (Currently Amended) [[A]] The system ~~according to~~ of claim 13, further including:

means for queueing one or more packets of a dataflow for utilization of said limited bandwidth link;

means for removing a number of tokens from the bucket corresponding to said dataflow, wherein said number of tokens is dependent upon the size of said one or more packets; and

means for making said number of tokens available for reallocation.

18. (Currently Amended) [[A]] The system ~~according to~~ of claim 17, further including[[:]] means for dropping one or more received packets of a dataflow when the bucket corresponding to said dataflow has insufficient tokens for queuing of said one or more packets.

19. (Currently Amended) [[A]] The system ~~according to~~ of claim 17, further including means for queuing received packets of diverse dataflows in a single queue.

20. (Currently Amended) [[A]] The system ~~according to~~ of claim 13 or claim 14, wherein two

or more of said dataflows comprise heterogeneous dataflows.

21. (Currently Amended) [[A]] The system ~~according to~~ of claim 13 or claim 14, further including means for aggregating and treating two or more of said dataflows as a single dataflow.

22. (Currently Amended) [[A]] The system ~~according to~~ of claim 13 or claim 14, wherein one or more of said dataflows comprise hierarchical dataflows and each level of an hierarchical dataflow is treated as a single dataflow.

23. (Currently Amended) [[A]] The system ~~according to any one of claims 13 to 22~~ of claim 13, wherein ~~the~~ a total number of said tokens is conserved.

24. (Currently Amended) [[A]] The system ~~according to any one of claims 13 to 22~~ of claim 13, wherein ~~the~~ a rate of transmission of said packets across said limited bandwidth link is unaffected by ~~the~~ an application of said system.

25. (Currently Amended) A computer program product including a computer readable medium with a computer program recorded therein for allocating bandwidth of a limited bandwidth link to dataflows ~~containing~~ comprising packets, ~~including~~ said computer program product comprising:

means for adaptively adjusting ~~the~~ a number of buckets dependent upon ~~the~~ a number of active dataflows, where each bucket ~~has~~ comprises a number of tokens allocated to said bucket for use by ~~the~~ a corresponding dataflow, said number of tokens dependent upon a weighted value

for said corresponding dataflow, wherein queueing of said packets for utilization of said limited bandwidth link is dependent upon said tokens; and

means for adaptively reallocating said tokens to ~~one or more~~ at least one bucket buckets in accordance with a weighted value for each of said dataflows[[.]],

wherein each bucket is operable for maintaining a record of past usage of an outgoing bandwidth link by each incoming dataflow,

wherein each bucket comprises a height proportional to weights of respective incoming dataflows, wherein said height of each bucket determines a maximum size of bursts of dataflows that can be accommodated by said buckets, and

wherein a rate at which said tokens are allocated to said buckets is proportional to said weights of respective incoming dataflows such that a cumulative rate of all allocation rates equals a fixed transmission capacity of said bandwidth link.

26. (Currently Amended) [[A]] The computer program product ~~according to~~ of claim 25, wherein ~~the~~ said computer program code means for adaptively adjusting ~~further includes~~ comprises computer program code means for creating an additional bucket for each additional dataflow, wherein ~~the~~ a token-carrying capacity of said additional bucket is dependent upon a weighted value for said additional dataflow and said additional bucket is initially filled with tokens.

27. (Currently Amended) [[A]] The computer program product ~~according to~~ of claim 25, wherein the computer program code means for adaptively adjusting further includes computer program code means for deleting a bucket when the dataflow corresponding to that bucket

becomes inactive.

28. (Currently Amended) [[A]] The computer program product ~~according to~~ of claim 27, further including computer program code means for distributing the tokens from the deleted bucket amongst one or more of the other remaining buckets.

29. (Currently Amended) [[A]] The computer program product ~~according to~~ of claim 25, further including:

computer program code means for queuing one or more packets of a dataflow for utilization of said limited bandwidth link;

computer program code means for removing a number of tokens from the bucket corresponding to said dataflow, wherein said number of tokens is dependent upon the size of said one or more packets; and

computer program code means for making said number of tokens available for reallocation.

30. (Currently Amended) [[A]] The computer program product ~~according to~~ of claim 29, further including[[:]] computer program code means for dropping one or more received packets of a dataflow when the bucket corresponding to said dataflow has insufficient tokens for queueing of said one or more packets.

31. (Currently Amended) [[A]] The computer program product ~~according to~~ of claim 29, further including computer program code means for queuing received packets of diverse

dataflows in a single queue.

32. (Currently Amended) [[A]] The computer program product ~~according to~~ of claim 25 or claim 26, wherein two or more of said dataflows comprise heterogeneous dataflows.

33. (Currently Amended) [[A]] The computer program product ~~according to~~ of claim 25 or claim 26, further including computer program code means for aggregating and treating two or more of said dataflows as a single dataflow.

34. (Currently Amended) [[A]] The computer program product ~~according to~~ of claim 25 or claim 26, wherein one or more of said dataflows comprise hierarchical dataflows and each level of an hierarchical dataflow is treated as a single dataflow.

35. (Currently Amended) [[A]] The computer program product ~~according to any one of claims 25 to 34~~ of claim 25, wherein ~~the~~ a total number of said tokens is conserved.

36. (Currently Amended) [[A]] The computer program product ~~according to any one of claims 25 to 34~~ of claim 25, wherein ~~the~~ a rate of transmission of said packets across said limited bandwidth link is unaffected by ~~the~~ an application of said computer program product.